International University of Africa

Deanship of Graduate Studies

Stability of Wafraclox and More Confirmation by Thermal Study

A Thesis Submitted in the Partial Fulfillment of the Requirements of the M.Sc Degree in Industrial Chemistry

By

Mai Malik Khider Omer

(B.Sc Chemistry in Chemical Laboratories at SUST)

Supervisor:

Dr.Salah Elnaiem Mohammed

Khartoum-Sudan

December 2017

Acknowledgment

For the ancestors who paved the path before me upon whose shoulders I stand.

I would like to express my special thanks of gratitude to my supervisor:

Dr.Salah Elnaiem Mohammed

For his unlimited support, grate full effort, guidance and continuous encouragement to present this research in form.

As well as our principal: wafrapharma laborotaries who gave me the golden opportunity to posses this project on the topic stability of Ampicllox .

Thanked everyone who contributed and helped in the production of this research as honorable and extend thanks to all of my evacuation may god preserve them…..

Dedication

This thesis is dedicated to my father who taught me that the best kind of knowledge is the one learned for its own ask, it is also dedicated to my mother who taught me that great task can be accomplished, if it is done in one step at a time.

Mai

Abstract

This research reviews the studies on the stability of wafraclox suspension drug Aimed to safe patients and substantiated the claimed shelf-life.

Which is composed of Ampicillin and Cloxacillin .The studies focused on three samples of Wafraclox.

The first sample was placed in the refrigerator at 8°C, and second sample exposed to the temperature of the room at 25°C ,and the third sample was placed in the oven at 40°C.

Then they were analyzed with registering the effectiveness rate weekly for 28 days.

A mechanical method for cloxacillin was 100 ml powder transferred to 100 ml volumetric flask and the volume was completed with water, 2 ml of each was diluted by 0.1M HCL, the absorbance was measured at 350 nm.

The concentration relation test was made also for Ampicillin because it is the other part of wafraclox drug content, that 144 mg/100 ml concentration, and the volume was completed with mobile phase to 100 ml, and then 20 ml are separately injected equal volume into the chromatograph, according to it the chromatogram was recorded.

Finally the result was registered, the percentage was calculated and the Stability was concluded.

The study recommends following the pharmaceutical prescripts of the drug from the shelf-time to storage condition.

مستخلص البحث

يتناول هذا البحث دراسات الاستقرارية لعقار وفرا كلوس بهدف سلامة المريض والتحقق من مدة الصلاحية المزعومة، وقد اجريت هذه الدراسات على ثلاثه عينات من العقار ، والذى يتكون من مكونين اساسيين هما الامبسلين والكلوكسيسلين .

وقد وضعت العينه الأولى فى الثلاجه عند درجه حراره 8°C العينه الثانيه عند درجه حراره الغرفه 25°C والعينه الثالثه فى فرن حرارته 40°C.

وقد تم تحليلهن تحليلا كيميائيا وايجاد نسبه الفعاليه اسبوعيا على مدى 28 يوما.

استخدمت طريقه اليه للتحليل للكلوكسيسلين حيث حضرت ثلاثه دوارق حجميه سعه 100 مل باستخدام وزنه من العينه وذوبت بالماء واكمل الحجم حتى العلامه ثم اخذت 2 مل منها ثم خففت بحامض الهايدروكلوريك تركيز 0.1 M ثم قيست الامتصاصيه لكل واحده منهن فى مدى 350 نانوميتر .

كذلك اجريت الية التحليل للمكون الاخر للعقار وهو الامبسلين حيث حضرت ايضا ثلاث دوارق حجميه بتركيز 144ملجرام\100مل ثم اكمل الحجم بالطور المتحرك الى 100 ملجرام ثم اخذت 20 مل ليتم بها عمليه الحقن المنفصل وذلك لاجراء التحليل الكروماتغرافى ورسمت علاقات التركيز معبرا عنها بالامتصاصات ضد درجات الحراره .

واخيرا سجلت النتائج وحسبت النسبه المئويه واستنتجت على ضوئها الاستقرارية.

وتوصى الدراسة بالالتزام بالارشادات الدوائية للعقار من حيث مدة الصلاحية وظروف التخزين.

List of Contents

Chapter one

Chapter two

Chapter Three

Chapter Four

List of Tables

List of Figures

List of Abbreviations

DDQ	2,3-dichloro-5,6-dicyano-1,4 benzoquinone	17
LOD	The limit of detection	24
LOQ	The limit of quantification	24
AMO	Amoxacillin	28
CLO	Cloxacillin	28